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ABSTRACT

The paper considers the problems of special education for India. Sections cover the incidence and types of crippling conditions, special education in the context of India's general educational system, medical services and their bearing on the problem of exceptional children, and an overview of trends in the provision of special education in developing countries. Guidelines are offered for future action in the following areas: restructuring the set-up of governmental machinery; areas of collaboration between voluntary agencies, local authorities and the government; the evolving role of medical personnel, social workers, paraprofessional staff, and other agencies; reaching out to the masses; research for improved services; and modern technology in education of exceptional children. (SBH)

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THE CHALLENGES OF SPECIAL EDUCATION IN DEVELOPING COUNTRIES

(A Case Illustration from India)

Vera D. Mehta

(College of Social Work, Bombay, India)

Paper Prepared for the World Congress on Future Special Education

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THE CHALLENGES OF SPECIAL EDUCATION IN A DEVELOPING COUNTRY

A Case Illustration from India

Vera D. Mehta

INTRODUCTION

In the Western Hemisphere, approximately one out of every seven children of school age needs some special educational services beyond what is available in a usual classroom in order to make the most of the potentials. Only 20% of those needed this help are receiving it at the present time. In the developing countries, the number of children who receive special education is far greater, and yet barely 1%, and in some regions of the world even less than that, can ever know or expect to receive the education that is their right and which society owes them.

The problem is all the more complicated because local investigations in any country have not always followed identical standards of diagnosis of uniform statistical definitions, the definitions have often been based on practical rather than scientific considerations. Furthermore, many degrees of perfection exist in practically all psychophysical traits. Thus, there is no sharp line between normal and deficient speech, or between mental subnormality and normality. Each group has special educational problems that require specific techniques, materials and procedures that are not interchangeable from group to group. Each should be taught by highly skilled people, trained to understand the problems inherent in the disability.

Common to all physically, mentally, socially and emotionally disadvantaged children is their need for the development of a realistic understanding of their strengths and limitations and the development of a

wholesome personal self-concept. The psychological effect of each kind of handicap on the personality of each child is a most telling argument for the establishment of special services for these children. Again, many categories of defects or anomalies do not represent simple, unitary, homogenous entities. Thus, mental deficiency or retardation, cerebral palsy or epilepsy represent highly complex, heterogeneous conditions of many degrees, types and causes: physical, mental, social and educational symptoms and consequences; and many treatment needs, rather than distinct nosological (classificatory) entities. It would indeed be more accurate to speak of the visual handicaps, acoustic disabilities, mental deficiencies, the epilepsies, and the cerebral palsies, rather than to speak of mental deficiency, epilepsy and cerebral palsy.

Services for exceptional children must be related to the country's general social welfare programs and to the fabric of the total society. The already complex problems of special education become even more complex.

We must realize that they cannot be studied in India or in any other developing country without taking into consideration the socio-economic background of the society as a whole. Factory-like poverty, illiteracy, malnutrition, rural economy, unemployment and fatalism must be evaluated in relation to their impact on the problem of the physically, socially and emotionally handicapped.

While other countries focus attention on devising and refining specialized instructional methods and educational technology, the emphasis in developing countries should be to work at the macro level

to eliminate the very causes which produce such an enormous incidence of preventable and avoidable suffering and deprivation.

Therefore, the problems of special education pose a different set of questions in a developing economy. Though individual services are not highlighted in the paper, it is not because they are unimportant but because the author feels that other factors gain priority in terms of the developmental problems of new and emerging nations. For lack of adequate data it has not been possible to cover the services for socially and emotionally handicapped and gifted children.

INCIDENCE

THE EXCEPTIONAL AND THEIR NUMBERS

In general there is considerable variation among estimates of the incidence of different handicapping conditions because of the lack of agreement on definitions, differences in samples used as the basis for estimates, and lack of trustworthiness of data derived from extrapolations based on rates for other countries. In India, where conditions often vary considerably from one section to another, these figures at this point in the development of special programmes for the handicapped is less important than agreement on the goals of these programmes and on a system of priorities in their establishment.

The deaf and the hard-of-hearing, for example, have everywhere presented especially complex problems in terms of classification and measurement. This difficulty one can see even in an economically-advanced country like the U.S.A. Findings from actual tests of school children have ranged from 2% to 21% with defective hearing, and authorities have variously estimated the number of deaf persons in the U.S. from one in 700 to one in 2,500.

Variation in estimated totals of the handicapped in India depends, in part, on the range of handicapping conditions included and the definitions used in determining these conditions. Some basis for making accurate estimates has now been established somewhat, when the government started a series of random-sample surveys in different urban areas which were followed by rural surveys conducted by the National Sample Survey of India. Strangely, while estimates for the blind and deaf have appeared from time to time, there have been no corresponding ones

for the orthpedically handicapped, even though many experts agree that this group outnumbers groups like the blind and the deaf.

Some Significant Statistics: Recent estimates have been given for the number of children between the ages of 6 and 14 years in the country as a whole who have various kinds of handicaps, though the basis for the estimates was not indicated.

Blind	447,000
Deaf	223,500
Orthopedically Disabled	500,000
Mentally handicapped	1,500,000 to 1,800,000

India is said to have the largest number of blind persons in the world in that out of 15 million blind persons in the world, India has 5 million, about 1,000 persons in every 100,000 in India are said to be blind. The population of the blind in India is, therefore, one percent of the total, as against one-half percent as the world average. The blind are the largest group of the handicapped in our cities. Tragically, to quote the example of just one disability, 85% of the blindness in India is preventable and about 60% curable today, but continue to remain afflicted for reasons which will be discussed in depth in the latter part of this paper.

According to one estimate, the deaf comprise about two million; the orthopedically handicapped about 42 million. In this category there has been a steady increase in that in 1951 the number of orthopedically handicapped was 2.7 million, rising to 3.4 million in 1961, and to 4.2 million in 1971. Those affected by leprosy may be about two million, and the mentally retarded include about 3 or 4 million children. As for the emotionally and socially handicapped, it is estimated there are at least 2 million mental defectives and psychotics

under psychiatric treatment, and with the addition of psycho-neurotics the total is between six million and eight million persons.(1)

Another recent estimate from the government of India states that there are 49 million handicapped, but cannot give the exact number in each category. However, rough estimates would be as follows:

9 million - visually impaired
4 million - deaf
3 million - leprosy arrested
15 million - mentally retarded
15 million - orthopedically disabled
3 million - cancer affected

These estimates were gathered from National Sample Surveys.(2)

Types of Crippling Conditions and their Ever-growing Figures: The figures are not static; indeed, the tragedy is that these continue to increase at a steady rate. In the case of the blind, the annual increase consists of about 100,000 persons. In the case of the deaf, there is a rise of 40,000 per year. For the orthopedically handicapped, there is an increase of 100,000 per annum. It is unfortunate that in the absence of any surveys, it is not possible to give any figure about the annual increase in the case of other categories, i.e., of the mentally retarded, the leprosy affected, the emotionally and socially handicapped.

Discrepancies are found in the categories of the orthopedically handicapped which is due to the fact that attention to them came last. Both traffic and industrial accidents can be expected to increase in the developing countries as the process of industrialization accelerates.

Disabilities resulting from other kinds of accidents vary somewhat from one locale to another. In mountainous regions, accidental falls are common, while animal and insect bites are common in forests and villages.

Those above the age of 55 constitute approximately 8.5% of our population, but diseases associated with aging are less common. We have in the third world a predominance of child population (about 41-44%) and hence our battle is against crippling conditions which attack childhood. Tuberculosis of the bones and joints, and deficiency diseases like rickets are more prevalent in India, whereas in the West, cerebral palsy and amputations are more common. Polio, once reported as of high frequency in Western countries, may now actually be higher in India. The use of vaccines has rapidly brought it under control in more highly developed countries, while polio cases continue to represent a large portion of the cases of crippled children in India, for whom services are being provided.

The incidence of polio is likely to rise, rather than to decrease, in view of evidence that polio is on the increase in approximately 44 tropical and semi-tropical countries in Africa, Asia and Latin America, as contrasted with dramatic decrease in 21 European countries plus Australia, Canada, New Zealand and the U.S.A. Polio remains an infantile disease in warm countries, the majority of cases being found among children five years of age. Vaccination in itself is not necessarily the solution or at least as effective a solution in tropical countries since the proportion of children developing antibodies after vaccination can be as low as 30% in comparison with the more usual 90% in temperate climates. An increase in the incidence of polio is expected whenever the infant mortality rate in a country falls below 75 per 1,000.(3)

Other disabling conditions found in western countries which occur much less frequently in India, include multiple sclerosis and muscular dystrophy, which are said to be very rare in India as in other Asian

countries. In the case of muscular dystrophy, this may seem to be true since little is done for persons so afflicted; and those with the type appearing in childhood usually die at an early age.

Some handicapping conditions which are practically non-existent in Western countries loom large among the health problems of India, as in the case of leprosy. Blindness, though found in all countries, is a much more serious problem in India. Any worked change in the present incidence of various types of handicaps in India will probably be related to improvements in social and economic conditions.

Nutritional deficiencies, both quantitative and qualitative, cause handicapping conditions in India. Whereas the estimated daily requirements of an adult range from 2400 to 3,000 calories, it has been estimated that the average Indian diet approximates only 1750 calories and lacks essential vitamins, minerals, fats and proteins. Religious and economic factors dictate a vegetarian diet for large numbers of people. The extent of malnutrition is suggested by a Bombay Municipal Survey which revealed that of 42,472 public school children given medical examinations that year, 83% suffered from some kind of ailment. A study in Surat, conducted by the All India Women's Conference, disclosed the fact that only 17% of the children less than five years of age were healthy, whereas the remaining 83% suffered ill health because of nutritional deficiencies. A Poona survey by the Students' Health Association showed that only a third of the school children examined were found to be fit.(4)

The incidence of mental retardation in India may be due, in part, to problems of malnutrition. In the child, the brain reaches 80% of its adult weight by the age of three, whereas the body reaches barely

20% of its adult weight by that age. Nutrition is a matter of critical concern, particularly during the first three years of the child's growth. Dr. Moises Behar, Director of the Institute of Nutrition of Central America and Panama, calculates that 300 million children in the world are in danger of impaired brain growth resulting from nutritional deficiencies, since the great majority of young children in the lower socio-economic groups of developing countries show a decreasing rate of growth after the first few months of life. Studies conducted in Mexico and Guatemala underscore the relationship between learning capacity and nutrition, as shown, for example, by the poorer intersensory integration demonstrated by the smallest children in a Guatemalan village, as compared with the tallest.(5)

Many examples can be cited of the social customs, habits, beliefs and taboos that contribute to malnutrition--even when adequate foods are available. In one Indian village nearly 90% of mothers breast-fed their infants beyond the age of one year, a few beyond the age of three, without giving them food supplements. In this village, mothers avoid eggs and fish during pregnancy and after labour, and do not permit their children to eat green vegetables lest these give the children "green diarrhea." Thus the problem of malnutrition is not simply a matter of lack of food. A widespread program of public education concerning nutrition is of vital importance.(6)

Need for Reliable Statistics: The foremost need is to take steps to gather as much information as possible about the size and needs of the handicapped population. This can be conducted in two ways:

1. Through the agency of the census authorities, who can undertake the compilation of this type of information on a national scale, although the information collected through this source must necessarily be general in character and somewhat of a limited value.
2. More intensive surveys in limited areas carried out by voluntary agencies of State governments.

Data on the handicapped and disabled were carried out regularly until 1931 during the ten-yearly census in India, but has been discontinued since then. If the count of exceptional persons has to be done in the census, then there must be personnel who are trained and oriented in this direction to gather accurate and appropriate data.

It may be worthwhile for the state governments, universities and other voluntary agencies to consider undertaking sample surveys in select areas. The object of these surveys will not only be to gauge the incidence of the various crippling conditions, but to obtain as much information as possible about the needs and potential capacities of the handicapped population. In order that the results of the various surveys to be carried out in different parts of the country might be comparable, it is essential that the standard definitions should be adopted.

Such surveys are not expected to give us an accurate idea of the size of the handicapped population, but are expected to provide reasonably dependable indication, not only of the size of the handicapped population, but also of the degree of concentration of certain handicapping conditions in particular areas, and the socio-economic educational and medical needs of the handicapped.

SPECIAL EDUCATION FOR EXCEPTIONAL CHILDREN IN THE CONTEXT OF THE GENERAL EDUCATIONAL SYSTEM

Special education refers to all the special provisions made to enable handicapped children to acquire an education, whether in the home, hospital, regular school, or special school. The problems faced in making these special provisions must be considered within the context of general education for all children. Since special education, with its requirements for services, facilities, equipment and specially-trained teachers, is more expensive on a per-pupil basis than general education, policy makers and administrators give a higher priority to education of normal children; in this way, limited resources can provide services for a larger number of individuals. This is particularly true for India, where there are still so many normal children whose educational opportunities are limited or non-existent.

Education in India has all the problems common to developing countries as well as some that are almost unique. These include India's recent emergence as an independent nation; the need for progress achieved without too much disruption of old patterns of life; social inequalities, as epitomized by caste systems; the low status of women; population growth so rapid that it tends to outstrip resources, even though the latter are growing; a shortage of capital; and general poverty, ignorance, and superstition. There are also the problems presented by geography and climate, by food habits associated with religious beliefs, by multiple languages, by traditional concepts of the nature and purpose of education, and by concern about the present role and future status of the country as an international power.

The policy for primary education followed immediately after independence. It was to start providing primary education for all children of the 6 to 11 age group, and it was hoped to extend it gradually to cover the group to 14 years when more resources became available. The financial stringencies prevailing immediately after independence led to weak effort in the field, although a great sense of urgency was expressed

The rate of expansion of higher secondary education has been faster than primary education (4.9 percent during the early 1950's, and 8 percent today). Apparently, thus, social groups which were relatively well-to-do and therefore in a position to perceive and utilize the advantages of education, managed to get a higher share of even the existing meagre educational resources.

On the other hand, some of the difficulties in the spread of primary education have been social rather than economic. Thus, the children of lower castes, landless labourers and persons in unskilled occupations, have not attended schools very often because their own parents' motivation for such schooling is not very high. They do not see its utility in terms of either an occupation or a better life which appears open to them. The culture and the atmosphere of the school, determined as it is by the middle class and urban attitudes and/or aspirations of teachers, have also proved uncongenial to children from these lower social groups who have, therefore, not fared well in school and have often given up out of a sense of frustration and failure. Girls constitute one major group to which primary education has not been brought in a big way in some parts of the country.

Another major problem is inadequate nourishment, which may also prevent the youngster from gaining full benefit from those educational opportunities that are available for him. The children from birth to 26 years of age constitute about 40% of the total population, and more than 70% of them are said to go to bed hungry every night. Although Indian authorities claim that 90% of the boys attend school, the advantage of such attendance may be limited by nutritional deficiencies which stunt the child's physical and mental growth. This may account, in part, for the dropout rate since half the children who enter Class I drop out before completing Class V, while barely 34% complete Class VII.(8)

Education, for either ablebodied or handicapped children, is generally much more limited in tribal life than in the life of settled communities. Only 10% of the so-called "scheduled castes" are literate compared with 24% of the general population, though the percentage varies considerably from one state to another. Improvement in educational opportunities is occurring, as indicated by the fact that the percentage of "untouchable" children enrolled in primary school has risen more rapidly than for other children. At the same time, their enrollment in secondary and higher education remains low. Fortunately, schools are multiplying and in the case of nomadic groups, residential schools are being organized, plus hostel accommodations for youth attending secondary schools in large population centres.

The actual figures for a functional literacy are undoubtedly far lower than the reported figures for literacy. Data on literacy are difficult to interpret for a variety of reasons. Definitions of literacy are usually vague, so persons with a minimal ability to read and write may be called literate, even though they may be unable to use these limited

skills in any practical situation. Even when a specific definition of literacy is given to census-takers, these persons may not really understand the definition or apply it uniformly throughout the country. Also, those who are barely literate often lapse back to illiteracy because they have nothing to read and no paper on which to write.(9)

India is a multilingual country, with a total of more than 200 languages of which 14 are major regional languages. English has continued to be widely used on the universal level, partly because of past practice and partly because of the greater supply of textbooks and publications in English. It is, therefore, not uncommon for a youngster, even before he reaches college, to have studied four or five languages: his local tongue, a regional language, Hindi, English, and perhaps even another modern language. This situation presents special problems for students with sensory handicaps, who have difficulty in mastering just one language; proficiency even in Hindi is usually quite limited in their case. Therefore, they seldom go on to the university, where three languages may be needed.(10)

Although official Indian figures indicate that school enrollment has increased twice as fast as the increase in the age group of 5 to 14 years, such figures are open to question. A child listed as enrolled in school does not necessarily attend school the entire year; though registered, children may have attended school only briefly or irregularly or perhaps not at all. The desire on the part of teachers and administrators to make a good showing will naturally lead to emphasis on registration figures alone. These data also do not indicate the number of children repeating a grade, and there is evidence that many stay behind for a year or more and are over-age for their grade.(11)

The education of girls continues to lag behind that of boys, in part because of a long religious tradition, since all three Asian religions--Islam, Buddhist and Hindu--have "cared little for the education of girls and have placed women in an inferior position," even though present-day reformers realize that the nation's development will be impeded if women remain ignorant and uninformed.

Among the factors that tend to limit educational opportunities for girls, as compared with boys, are: the general attitude that girls should marry at an early age and devote their lives to child-rearing; resultant parental indifference to girls' education, especially at the secondary level; the continuation of taboos against work outside the home for women, even occupations such as social work, clerking and stenography, which were accepted at an earlier point in Western countries; and the lack of vocational guidance in schools which makes it even less likely that girls will consider continuing their education. At the same time, certain broad social changes provide impetus for making the girl economically self-sufficient, such as the trend toward smaller, planned families which releases the woman for work outside the home for a larger proportion of her adult life, and the gradual disappearance of the extended family with its group assistance, resulting in the need for more income as a nuclear or primary family group in facing the rapidly-rising cost of living.(12) The recommendation that as part of the program for reducing the Indian birth rate, the legal age for marriage be raised, should likewise lead to more emphasis on, and opportunities for, education for girls.

Boys and girls have traditionally been educated separately in India, though there is now a tendency toward more co-education. Actually,

practices vary greatly throughout India in both regular and special schools. Among special schools, most of those for the blind and for the deaf are just for boys, only occasionally including a much smaller attached unit for girls. As a rule, special educational facilities for girls are far more limited than for boys.(13)

A Ministry of Education report in 1966 emphasized that the Constitutional Directive on compulsory education up to age 11 includes handicapped children. This requirement has not been enforced, however. Parents often use even a mild handicap as justification for keeping their child at home, and the authorities permit them to do so. (14)

Limitations in public provisions for education are indicated by the fact that a quarter of all elementary school pupils are attending private schools, and nearly all of these are subsidized by the government, even though these schools generally cater to children from the upper classes. Among the South Asian countries, India has the highest proportion of fees in relation to total educational expenditures.(15)

A broader range of educational and related medical services is available in urban centres than in rural areas, as illustrated by the services provided in the city of Bombay. Though no coercion is used to force attendance, about 95% of the school-age children are enrolled in primary schools. Free milk, snacks and medical treatment facilities are provided. CARE and Catholic Relief Services assist in the school food program. Although it was reported in 1967 that there are regular medical examinations of school children in all schools in India once a year, this represents almost certainly a goal rather than an actuality. Such a service is more frequently found in large urban educational systems like that of Bombay.

Many early provisions for education of the handicapped were initiated by missionary groups. Most special institutions for the care, training, and education of the handicapped are still run by voluntary organizations with some state government assistance, and do not charge fees. Provisions vary greatly from one region or community to another, but most institutions provide primary education, combined with training in a few simple handicrafts, including music for the blind.(16) Vocational training is more frequently given in residential institutions than in day schools.

It is difficult to arrive at any one set of figures on which all authorities agree concerning the number of schools provided for children with different kinds of handicaps. The totals given in various sources include a great variety of centres and programs, many of which are not actually schools or which do not include specific educational services. Information concerning the sex and age group served, the number accommodated, and the basis for admission is often not available.

It is evident that only a small proportion of the handicapped in each category are receiving any kinds of service, including education. The 1966 Ministry of Education report indicated the following estimates of the number of school-age children in four categories of the handicapped, with the mentally handicapped now included in its consideration.(17)

Blind	400,000
Deaf	300,000
Orthopedically handicapped	400,000
Mentally handicapped	1,400,000

For the blind children there was in that year a total of 115 schools and other establishments, with an enrollment of 5,000, or a little over 1% of the total blind children in the country. Not all these institutions

could be considered schools, however, and all the 5,000 children were not necessarily receiving education.

There is no listing as yet of the provisions made for the education of non-infected children of parents with leprosy, or for children in whom leprosy has been arrested. Separate schools, as such, are not usually established for them. A sanitarium may provide special classes for a few children with leprosy-affected parents, or another institution may have classes for children with leprosy. A home and school for these children may be combined in one institution. They are not prohibited from attending regular schools, if they themselves have not had leprosy or if the infection is arrested. In many places they are being quiety integrated into homes provided for other children. It is recognized that it would not be desirable to list them or to draw attention to them in other ways. At the same time, school authorities realize that there are undoubtedly children with active leprosy attending regular schools who need to be identified and given appropriate treatment.(18)

Almost all the provisions existing at that time took the form of residential institutions, and this pattern of segregated education and training has continued to dominate the picture until recent years. Given here is the list of total number of institutions in India. The following table very clearly points out to the almost total inadequacy of services that exist for the handicapped. One can also see that in certain regions there is a complete absence of any services which is again also characteristic of other developing countries and which holds also for some of the developed countries:

Number of Institutions for Training and Education of Physically Handicapped in States/Union Territories in 1975

Sr. No.	States/Union Territory	No. of Institutions				
		Blind	Deaf	Orthodpedic. Handicapped	Mentally Retarded	Total
	States					
1	Andhra Pradesh	6	2	2	4	14
2	Assam	4	1	-	-	5
3	Bihar	10	2	-	2	14
4	Gujarat	19	16	4	6	45
5	Haryana	5	1	1	-	7
6	Himachal Pradesh	-	-	-	-	-
7	Jammu & Kashmir	4	-	-	-	4
8	Karnataka	8	4	9	9	30
9	Kerala	6	5	8	1	20
10	Madhya Pradesh	8	9	6	3	26
11	Maharashtra	24	19	13	8	64
12	Manipur	-	-	-	-	-
13	Meghalaya	-	1	-	-	1
14	Nagaland	-	-	-	-	-
15	Orissa	2	2	-	-	4
16	Punjab	4	3	10	6	23
17	Rajasthan	2	-	4	2	8
18	Tamil Nadu	10	12	1	7	30
19	Tripura	1	1	-	-	2
20	Uttar Pradesh	11	17	2	4	34
21	West Bengal	6	5	5	6	22
	Union Territory					
22	Andaman & Nicobar Islands ...	-	-	-	-	-
23	Arunachal Pradesh	-	-	-	-	-
24	Chandigarh	2	1	1	1	5
25	Dadra & Nagar Haveli	-	-	-	-	-
26	Delhi	7	2	3	5	17
27	Goa, Daman and Diu	-	-	-	-	-
28	Lakshadweep	-	-	-	-	-
29	Mizoram	-	-	-	-	-
30	Pondicherry	2	-	-	-	2
	TOTAL	141	103	69	64	377

Source: Department of Social Welfare, Government of India, New Delhi (19)

To carry this analysis further, let us review the educational services available in Maharashtra, one of the leading states of India and its principal city, Bombay, where perhaps the best services are located in the country, besides Delhi, which caters to populations from all parts of India. These statistics once again reveal the dire lack of services available. These figures show that only 1% of the total blind school-age population can hope to receive education.

The special institutions serve the following numbers of persons:

Number of Handicapped in Special Institutions(20)

Year		Blind	Deaf	Orth. Hand.	Ment. Hand.	Total
1961-62	Children	519	383	128	277	1,307
	Adults	210	51	70	0	331
	Total	729	434	198	277	1,638
1965-66	Children	610	427	310	348	1,695
	Adults	350	54	211	0	615
	Total	960	481	521	348	2,310

These figures indicate a 41% increase in the number of handicapped persons placed in special institutions over a four-year period.

It is to be expected that educational opportunities for the handicapped will be greater in those states where educational opportunities for the normal population are greater. For example, the per capita expenditure on education is the highest in the state of Maharashtra and the lowest in Orissa, whereas the enrollment percentages for both boys and girls are the highest in the state of Kerala.

Each year the central and state governments award scholarships to blind, deaf, and orthopedically handicapped students for continuing their education.

In spite of such incentives, relatively few handicapped children continue into post-secondary or higher education. This is not surprising in view of the small proportion of normal youth who receive advanced education. Although the percentage increase in enrollment has risen more rapidly in India for post-secondary versus primary or general secondary education, less than 2% of the age group continues to this level.

The fact that few handicapped youth continue into post-secondary education is not necessarily a disadvantage to them or to the country as a whole. Higher enrollments ought to decrease rather than increase. Higher education is academic in most cases, and since it adds to the growing number of discontented "educated unemployed" seeking administrative jobs, the opportunities of this kind for the handicapped are understandably even more limited than for normal youth. The vocational orientation of most special education is likely to provide handicapped youth with occupational skills far more necessary to the Indian culture than would the present type of academic university education.

An adequate guidance program necessitates the development and use of a wide variety of appropriate tests. The last decade saw a rapid growth of interest in the use of mental tests, resulting in publications such as the 1966 "First Mental Measurement Handbook in India," produced by the National Council of Educational Research and Training. The testing movement appeared some 15 to 20 years later than in Western countries, where the first tests were developed for the purposes of measuring mental deficiency and for selecting military personnel. In contrast, in India the first tests were constructed only in teacher-training institutions to provide experience in research, and thus the tests produced

as part of the work toward a master's degree usually had a narrow regional bias. Foreign missionaries actually developed the first tests.(21)

In Bombay, as elsewhere, the training of special teachers is also conducted by voluntary agencies. There has been some difficulty in recruiting trainees for these programs because the salaries for special teachers are low. This is a general problem in the country as a whole, because instead of getting a special increment as in most western countries, these special teachers may actually earn less than regular teachers, work under more unfavorable conditions, and find less prestige associated with teaching handicapped children than with teaching normal children.

In view of India's limited resources and the costliness of special education as compared with regular education, some think it preferable to give attention first to those most likely to become economically self-sufficient.(22) Possibly a more effective approach to the problem of providing for crippled children would be that of making alterations in existing schools which would enable these children to attend them, rather than to establish separate special centres or schools to serve only a relatively few severely-handicapped children whose potentialities for rehabilitation are more limited. The same level of expenditure would serve a much larger number of children as a result.(23) As funds and facilities permit, provisions could be made later for the somewhat smaller number of those more severely-handicapped children. Such a program would also demonstrate the feasibility of the ultimate goal of integrating all kinds of handicapped children into regular schools. For this process of integration to succeed, there must be careful orientation

of the other children in the school as well as the teachers, the parents of the normal children, and other adults in the community.

Ideas and practices borrowed from western cultures must be adapted to the special needs dictated by the situation in India. The games and forms of play found in other countries may involve expensive, elaborate, or non-available equipment and facilities. Indians need to adapt their indigenous games along educative lines. A number of them actually resemble Western games, as in the case of marbles, cricket, and Meccano activities with sand and stones, rather than wood or metal. The Montessori and kindergarten systems of the West are likewise too elaborate and expensive for India, which also has few teachers qualified to conduct such programs. Modest beginnings are most important at this state, using the commonly found pebbles, twigs, and "package splinters."(24)

The preparation of specialized teachers is of major importance. On the basis of a teacher-pupil ratio of 1 to 10, a total of about 16,500 teachers will be needed for blind, deaf, and mentally retarded children alone. This will necessitate expansion of existing training centres and the establishment of many new ones.

The future of special education is intimately intertwined with that of education in general, where there is need for many changes and improvements which face the obstacles of limited financial resources and entrenched traditional practices. Such changes include increased governmental regulation of the quality and structure of educational programs, more effective control of irregular attendance and dropping out, the training of better prepared and better motivated teachers, improvement in the status of teachers and teacher-training, more realistic and less artificial and rigid academic instruction, and improvement in the physical

equipment and supplies of the schools. Perhaps the most serious single obstacle to the extension of education in Asia as a whole is the scarcity of paper for writing and for printing books and other educational materials.

MEDICAL SERVICES AND THEIR BEARING ON THE PROBLEM OF EXCEPTIONAL CHILDREN

The education of exceptional children in a developing country cannot be considered in isolation from the general conditions of health and the state of medical services prevailing within the country.

Education is a later phase which comes as a remedial measure. Health conditions have to be considered initially for the strategies that have to be used in the earlier phase as a preventive measure.

Medical services in India are faced with varied and serious problems. Infectious diseases produce more death and disability in India than in the West.(25) About half a million persons die of tuberculosis in India every year and 5,000,000 to 10,000,000 need treatment for this disease annually. In 1963, of the 93,000 smallpox cases reported for the entire world, nearly two-thirds (60,000 cases) were from India; and though a combined vaccine to give immunity and protection against diptheria, whooping cough and tetanus has been available in India for over 30 years, these diseases still pose a serious threat to Indian children.

Since the conditions that cause disability are closely related to such factors as the standard of living and the level of medical services, programs of prevention are needed. Immunization will almost entirely eliminate polio. Adequate nutrition will help substantially in reducing mental retardation through decreasing the number of premature births and giving infants a chance to achieve their potential for full development. Perhaps nothing is more important in the field of positive health of children in this country than ensuring good nutrition and immunication against disease.(26) The problem of infectious diseases will persist until conditions, such as overcrowded housing and poor sanitation, can be improved.

With more than 80% of the population living in 700,000 villages scattered over the country, with poor inter-communication and with 60% of these villages containing less than 500 people,(27) most villagers lack adequate medical services and do not know what to do about congenital deformity or a crippling disease or an accidental injury when one occurs; they do not know what services might be available or how to go about seeking reputable service. They may also be unable to afford the cost of such service, and since specialized medical and surgical treatment is usually available only in large urban centers, they may not be able to travel there for such treatment and undergo a long convalescence or a stay in a nursing home. When treatment is sought, therefore, people like to consult "medicine men," herb prescribers, or door-to-door sellers of locally-concocted medicines. It is a tragic irony that many handicaps are not only worsened, but may also be supplemented by other handicaps caused directly by such inexpert treatment, as in the case of blindness.(28)

Though there are some clinics, hospitals, and dispensaries, even in small communities in India, facilities for the identification and treatment of handicapping conditions are found only in larger urban centres. Preventive and treatment services are unlikely to be available in the villages where most of the people live. An example of an effort to meet the needs of this rural majority is a demonstration project consisting of a mobile hospital which travels to rural villages to open new "eye camps." People who need medical care and treatment for their eyes, who have been located in advanceby the rehabilitation team, come to the camp, usually bringing a bed along. After these patients have received the surgery and treatment they need and have had a period under observation, they return

home, and the "eye camp" moves on to another village where still other patients are waiting. Although a valuable beginning, this service is as yet important as a demonstration of what can be done rather than in terms of making real inroads on the needs to be served. (29)

Even when a hospital is accessible, the limited personnel, space, and facilities result in acceptance of only the more serious cases, and their early discharge before rehabilitation procedures have been completed. But there are no convelescent homes in India for patients needing long-term recuperation, for whom a brief hospital stay is not sufficient.

Efforts at rehabilitation are further complicated by the Indian client's naivete concerning the nature and purpose of modern rehabilitation techniques. A person who has all his life sought help in superstitious rituals, charms, and bargains with the gods, may find it difficult to understand the real significance of rehabilitation procedures.(30)

One of the greatest rehabilitation needs in India is a centralized and comprehensive evaluation service, encompassing physical, psychological, social and vocational services.(31) It is emphasized that this evaluation service should not be restricted to any one category of handicap. The tendency in India, as in any other Asian countries, has been to develop special agencies to deal with a particular health problem, such as the National Malaria Eradication Project, the Family Planning Programme, and the Anti-Smallpox Campaign. Also, in other countries, there may be duplication of effort on the same problem.

An acute shortage of trained rehabilitation personnel continues to limit medical services for the handicapped. In 1967 there was a total of about 125 orthopedic surgeons in India, with an annual increment of

15 trained in India and abroad. Although at the beginning of the Second World War there were hardly any fully trained orthopedic surgeons in India, there are now such surgeons in most of the larger cities. However, the usefulness of such a specially trained surgeon is limited by lack of trained orthopedic nurses; inadequate accommodations for patients; lack of a national plan for a campaign along the lines of prevention, early discovery treatment and after-care for crippling conditions; lack of the team concept of cooperating services in rehabilitation; and the fact that the specially equipped and staffed hospitals started during the war for rehabilitating the injured were not continued in operation. Orthopedic surgeons particularly need the support of occupational therapists and physical therapists in handling their cases, and although the number of such paramedical personnel is increasing the total still falls far short of the number needed. (32)

General medical training needs more emphasis on handicapping conditions and rehabilitation procedures and services, in order to increase the physician's effectiveness in coping with the health and medical problems of the general public. The pediatrician is in a strategic position to assist in various preventive measures that might reduce the incidence of cases such as polio and TB and injuries resulting from accidents, to diagnose and assess handicapping conditions, and to help parents to understand and meet the needs of their handicapped children, but few of them have adequate preparation for a role of this kind.

Some figures concerning the ratio of various health personnel in India to the population are given as follows: (34)

Personnel	Total Number	Ratio to Population
Doctors	86,000	5,700
Midwives and auxiliary nurse midwives	36,000	13,700
Health visitors	4,200	111,800
Dais*	25,000	27,000

In 1968 the following totals were given for registered health personnel:

Medical doctors	97,768
Nurses	51,746
Auxiliaries and midwives	68,979
Health visitors	2,832
Sanitary inspectors	48,000

As another source indicated, a steady progress has been made in increasing these numbers. The number of physicians per 100,000 of the general population rose from 16.9 to 17.7; of nurses, 4.3 to 8.9 and midwives, 2.7 to 10.5 However, the rate of increase has been far too slow to meet the pressing health needs of the population, especially a steadily growing population. And since many of the older Indian physicians received just a two-year period of training in programmes that have only recently been upgraded, the professional competence of medical personnel is probably quite uneven. There is continuing debate

over the question as to whether insistence on a higher level of training for a limited number may deny many people the medical services that might be provided by less completely trained but more numerous personnel. (35)

There are only half as many nurses as doctors, with a similar shortage of midwives. Many factors are involved, such as a shortage of training facilities and the limited number of girls with sufficient education to undertake the training. But an additional important cause is the abhorence which upper class Hindus feel for bodily contacts especially the kind involved in nursing and midwifery. Parents are often unwilling to provide their daughters with such specialized education since they want them to marry early, or they may frown on the idea of their daughters' working outside the home, since this is not considered appropriate for girls from higher-class homes, or for married women. (36) Shortages include other paramedical personnel such as occupational therapists, physicial therapists and speech therapists.

Among the shortages of trained personnel in the rehabilitation process is that of orthopedic and prosthetic appliance technicians. The total need is difficult to estimate, but if one allowed one technician for every half million people, then about 1,000 fully trained technicians would be needed. And even if only 2% of the total population of India would benefit from some form of appliance, over 10,000,000 appliances would be required. (37)

The shortage of professionally trained social workers is illustrated by the fact that in the 1967 Directory of Professional Social Workers in India, which lists only those who have completed a full-time two year

professional social work program, a total of 1,302 is listed for a country of over 520,000 people. Problems of distribution exist here as elsewhere; the largest concentration occurs in Maharashtra state, whereas only one social worker is found in each of the States of Manipur, Tripura, and Sikkim. But this 1967 directory does represent a significant attempt, the first of its kind in India to collect and publish information about a category of professional rehabilitation worker, an effort aided by the U.S. Government. (38)

Recently progress has been made in India in the manufacture of prosthetic appliances. There are private manufacturers in urban centres as well as Government Centres. To give an example here too, though the Centre turns out at least 3,000 artificial limbs each year, there are usually as many as 2,000 civilian patients still waiting for prosthesis.(39) A study conducted of the physically handicapped indicated the following three major problems (40):

1. Most amputees cannot afford to buy artificial limbs and appliances because of their prohibitive cost.
2. Some who purchase them are not given proper training in their use, and thus do not find them as helpful as they should be.
3. No effort is usually made by those providing the prosthesis to see that the kind supplied meets the requirements dictated by local climatic and economic conditions which vary considerably.

A follow-up survey of 300 patients fitted with braces and prosthesis at the All India Institute of Physical Medicine and Rehabilitation in Bombay in the period from 1960 to 1965 revealed that only 46% of these patients were actually using them. Among the reasons cited for not using

the appliances were the following: (1) the braces were too uncomfortable and cumbersome; (2) some mothers reported that they had no one to look after the child wearing the braces; (3) they did not understand the basic medical reasons for using the prostheses; (4) the child's disability remained the same after using the braces. (41) It was evident that most patients did not understand the preventive and supportive functions of the appliances, and were disappointed when an absolute cure of the disability was not effected. One of the main problems of them was the fact that since most of their daily activities were performed on the floor, with much stooping and squatting, their movements in the typical Indian home were made more difficult when using braces or artificial limbs than when moving without them on their haunches or in an all-fours position. It is recognized that further research is needed for developing prostheses better adapted to the special circumstances of Indian rural life.

The country has made remarkable progress in the medical and paramedical field, in the growth of educational institutions, its personnel, extension of services but all this is nullified by the sheer growth in numbers and our inaccessability to reach enormous segments of the population in the rural areas.

AN OVERVIEW OF TRENDS IN THE PROVISION OF SPECIAL EDUCATION IN DEVELOPING COUNTRIES.

A review of developments in India and other countries regarding services for exceptional children, as compared with the development of such services in western countries, indicates the following:

1. The more recent achievement of independence of the third world countries as compared with other western countries means that there has

been a shorter period of time for developing self-initiated programs and a system of priorities.

2. The direction of development of services has been similar in that the blind and deaf first aroused public sympathy and concern, with the orthopedically handicapped and the mentally retarded appearing later in the picture with the category of gifted children given the least importance.

3. The late-nineteenth-century emergence of the first special programs for the handicapped in Asia reflects the pattern of southern Europe rather than the earlier development in northern countries.

4. Missionary groups have played a more active role in this part of the world than in western countries in establishing institutions and services, although authorities in many Asian countries today believe that they have done harm as well as good, and that their function should not be over-estimated in relation to indigenous efforts.

5. As in other countries, in India voluntary societies and philanthropic individuals have made initial provisions for the handicapped, with these being subsidized or taken over to an increasing extent by the government.

6. The concept of the appropriateness of voluntary work for women has emerged somewhat more slowly than in many western societies.

7. In India as in other countries better coordination of public and private provisions for the handicapped is needed in order to avoid inefficient duplication of services and to make better utilization of existing services.

8. The present investiture of responsibility for the education of the handicapped in the Department of Social Welfare, after an initial placing of this responsibility with the Ministry of Education, represents a reverse trend to that found in most western countries.

9. There has been a similar initial emphasis on separate, custodial, institutional provisions for the handicapped, with gradually awareness of the need for identification with the family, the importance of an eventual goal of integration into the normal community, and the desirability of including the handicapped child with normal children wherever possible. Only a token beginning has been made so far, however, in integrating handicapped children with normal children in regular schools. Attention of gifted children is almost negligible except in a few good urban schools.

10. In achieving integration of the handicapped youth into the community as self-supporting citizens, much remains to be done, as to a lesser extent in many western counties, in expanding vocational opportunities through more varied and realistic vocational training, and the changing of attitudes of potential employers toward the handicapped youth. However, widespread unemployment and underemployment complicate these efforts to a greater extent in India than in most western countries.

11. The categories of the handicapped for whom services are provided or planned are somewhat more limited at present than in more highly developed countries. This, of course, is understandable in view of the limited resources with which such problems can yet be attacked. Experts recognize that eventually other specialized needs must be met as for the partially hearing, the partially sighted, and the speech handicapped.

12. The pattern of incidence for the categories of the handicapped reflects in India and other countries of this region a lower standard of living and more limited medical and health services, such as a much higher incidence of tuberculosis and blindness, and the major problem of leprosy. A shorter life span means greater predominance of diseases of the young versus diseases of the aging as found in western societies.

13. Trained personnel are lacking to a far greater extent than in western countries. Programs for the specific training of professional are appearing, but as yet lack official standardization of requirements, curricula, and licensing procedures.

14. The basic problems in India are far greater in view of the numbers needing such services, the limited resources and development of existing resources in the country as a whole, and the overwhelming problems of poverty, disease, malnutrition, illiteracy, and a high birthrate which affect the general population. Successful attack on these problems is essential for any widespread improvement in services for the exceptional children.

15. The primarily rural character of the population, the size of the country, the multiplicity of languages, and the difficulties faced in providing adequate transportation and communication complicate the problems of providing services to a greater extent than in most western countries.

16. It is increasingly recognized in India, as in western countries, that services for the exceptional children can be developed parallel to those for the non-handicapped, and do not need to await the solution of

problems affecting the normal. Similarly the very improvements made in provisions for the handicapped are often found to have useful applications or provisions for the normal.

17. A basic problem here as elsewhere is the overcoming of negative attitudes and misunderstanding concerning the significance of handicapping conditions, which necessitates a broad program of public education and widespread dissemination of information related to the handicapped.

18. The combined humanistic and practical values inherent in rehabilitating the handicapped and making them as far as possible self-sufficient and contributing members of the normal community are accepted as a basis for current developments.

While recognizing the importance of these goals, some Indian experts maintain that limited resources and the relatively high cost of special provisions for the handicapped will make it impossible to implement such goals to any appreciable extent for some time to come. One can doubt the validity of this conclusion. Rehabilitation services as measured against other medical, social, and educational services are expensive in any country. Whatever the resources of a country, substantial progress in providing such services can be achieved once the public is convinced of their economic and social importance.

GUIDELINES FOR FUTURE ACTION (42)

Restructuring the Set-up of Governmental Machinery: New Responsibilities to be Assumed:

1. In most of the developing countries the existing Directorates of Social Welfare are already over burdened with several major problems like those of the backward classes, beggars, tribals, and juvenile

delinquiency. We also recognize that rehabilitation of such large numbers of the handicapped itself poses collossal problems needing specialized attention and, therefore, it is desirable that exclusive Directorates of Rehabilitation of the Handicapped be created at the Central or Union and State levels within self-contained cells for each of the disabilities and that such Directorates be entrusted with full responsibility of all categories of the handicapped.

2. Not only is the magnitude of the problem enormous but there are various constraints such as the lack of adequate financial administrative and technical resources which hinder the provision of services. For those itself we have not yet evolved a delivery system so as to reach the handicapped living in the farthest corners of the country.

In view of this there should not only be a National Debate but there should be a high level dialogue between Parliamentarians, legislators and workers in the field of the handicapped themselves for evolving a National Plan of Action embracing all aspects pertaining to medical educational, vocational, economic and social rehabilitation.

3. By an Act of Parliament, the state should accept full responsibility for the medical, educational, vocational, economic and social rehabilitation of the handicapped.

4. The financial responsibility for the medical, educational, vocational, economic and social welfare which has so far been shouldered by the voluntary agencies should be fully accepted by the Central and Federal and State Governments and that the rehabilitation of the handicapped be statutorily made the responsibility of the District, Village, Municipal and other local authorities so that our delivery system reaches

the farthest corners of our country.

5. One of the future programmes should be to enact comprehensive legislation of an integrated social security system.

6. Governments in the developing countries should set up a committee to define all handicaps, including orthopedic handicaps, on the lines of definitions acceptable by the special agencies of the United Nations and clear cut definitions specifying the degree of disabilities be evolved at the earliest.

7. The grants-in-aid given to institutions and associations for the rehabilitation of the handicapped are not adequate or uniform throughout the country. Again it has been found that grants are substantially lower than those given to schools and other institutions for the normal. In view of the higher expenditure incurred in education and training of the handicapped, grants-in-aid to all the institutions and associations for the handicapped throughout the country be given uniformly on the basis of the cent per cent of the expenditure incurred.

8. In the absence of a good coordination council, the government should periodically hold meetings of the coordinating committees, working for all the categories of the handicapped so as to ensure the best results.

9. Several countries have not passed legislation on rights regarding reservation of jobs of compensation or rights the disabled are entitled to. The existing outdated legislation relating to compensation for loss of organs needs to be reviewed in view of the changing economic systems so as to provide for liberal disability benefits.

10. Allocation of posts in Government establishments and reservation of seats in educational institutions also need to be reviewed and revised.

11. It is in the field of economic or vocational rehabilitation that one faces the greatest problems. This makes all our investiment for exceptional children wasteful and futile when these as youth have no jobs in open society where in the context of general unemployment there is a resistance to employing disabled persons. The majority of the industries are not socially conscious. Even the workers who have lost their limbs in accidents in the factory are not employed. The legal compensation seems the limit of the employers responsibility which again is very meagre.

The most difficult to place in open employment are the blind and those who have had leprosy. About 150 industries were approached a few years back. Only 22 were willing to consider employing negative leprosy cases. In three years it has been found possible to find jobs for about 60. There is resistance not only from the management but also from workers. The Government should pass legislation to absorb the disabled not only in government positions but also in private industry. This reservation of posts for the handicapped should belong to every category including the mentally retarded, cancer and leprosy patients.

12. Wherever possible, it should be made obligatory on the part of the concerned employer to rehabilitate the injured and to reabsorb him suitably.

13. The Government has set up Special employment exchanges for the disabled at Bombay, Delhi, Hyderabad, Calcutta, Ahmedabad, Bangalore and Ludhiana and Kanpur. In the last four years they have been able to find employment for 6,754 people out of 18,750 registered with them. Of those, 687 are blind, 899 deaf, 5,164 orthopedically handicapped and 4 have respiratory trouble.

More employment exchanges need to be opened up and the work of these made more effective by actually providing gainful employment. They should notify the schools about the types of jobs available so that the children can be appropriately trained.

14. A national assessment of the problems and potentials of the handicapped should be undertaken with special emphasis on studying the availability of suitable jobs for the handicapped and demands for the same.

15. Everything possible should be done to generate awareness through the use of the mass media for the greater absorbtion of exceptional youth, in particular.

16. The Government should liberally assist the socio-economic integration of the handicapped by giving on liberal terms, land, credit and other facilities for self employment.

17. In short a comprehensive legislation needs to be enacted for the medical, educational, vocational, economic and social rehabilitation of the handicapped especially the children and youth.

Role of Voluntary Agencies, Local Authority and the Government in changing the concept of exceptional children and providing improved services:

1. It is only through a closer collaboration between Government and voluntary agencies that we can have rehabilitation centres in the major districts and subcentres in rural areas to enable the handicapped in the adjoining areas to take advantage of such facilities. Where institutions are urban based, children should be given education as to be resettled in rural areas.

2. Programmes would be far more effective if voluntary organizations working in the field of the handicapped engaged at least 50% of their staff members from amongst the suitably qualified handicapped.

3. Facilities for early detection need to be developed at every level and imparting of knowledge for early detection be given in colleges, and to the staff of voluntary organizations.

4. Every effort should be made to see that aids and appliances are manufactured indigenously and subsidized suitably, wherever possible by the Government.

5. Voluntary organizations need to be encouraged with liberal financial assistance and technical guidance to manufacture such aids and appliances.

6. Such organizations which are undertaking the manufacture of artificial limbs, aids and appliances should be exempted from the payment of taxes.

7. To facilitate rehabilitation of exceptional children, the Social agencies involved with this work will require social workers, psychologists, speech therapists and occupational therapists and necessary financial assistance will have to be made available to those organizations.

8. Workers in the field of the handicapped should play the role of catalysts and start new programmes and projects for developing progressive rehabilitation services for the handicapped and redouble existing services. Voluntary agencies should also develop their work on professional lines following modern managememt techniques and engage more and more professionally and technically qualified personnel.

9. It is important that an assessment study be undertaken in regard to expenditure on treatment of patients and on community education programmes that have been launched by Government and Voluntary organizations.

10. For obtaining better results to our mass media programmes a personal touch is necessary and it is here that voluntary agencies can have a significant contribution. This personal approach can be established through home visits by caseworkers or even other parents of exceptional children.

11. Integration of exceptional children should start right at the kindergarten level, by forming "play groups". Voluntary organizations like the scouts, guides, yachts and Y.W.C.A.'s and other social service leagues in schools and colleges can play a useful part in organizing recreational services serving as "big brothers" for the handicapped children by making use of the existing facilities of their schools and colleges and those provided by educational and municipal authorities.

12. Not only should ongoing programmes be taken up but well-to-do institutions and organizations can also hold summer vacation residential programmes to which exceptional children can be invited.

13. While there are gross defects in the educational system, the field of sports, recreational and play are untouched or if they are, they are most meagre. One way to remedy this would be to have National and Regional Councils of Sports for the exceptional children. All institutions and associations working for the handicapped be requested to organize sports, recreational and cultural activities and recreational clubs.

14. The governments and the national and state level councils should accord recognition and affiliation to such national and regional councils of sports for the handicapped and encouragement and liberal financial assistance for their development.

15. Voluntary organizations can also be given encouragement and liberal financial assistance for their development, along with government collaboration to organize recreational facilities for exceptional children. We should remember that integration does not occur spontaneously, it calls for planning, thorough preparation and a great deal of imagination and determination if it is to be effective. Integration can take place only at a pace that the society can accept. Hence the community should be prepared to change so that its role towards these exceptional children will change.

16. The chances of integrating the physically handicapped are difficult but they are brighter when compared with that of the retarded child. Some of the severely retarded never likely to lead an independent existence. In seeking to integrate those retardates, we may even deny them the genuine community of interest which derives from association with others who are similar. We would therefore have to work at a more conscious level towards community education.

17. Workers in the field of exceptional education should reach out to various voluntary groups of women's organizations and service organizations like the Rotary, Lions, The Giants, Kiwanis, etc. to get financial support and volunteers for the many programmes for exceptional children. Voluntary organizations are excellent for mobilizing community resources and bringing about this integration.

The evolving role of medical personnel, social workers and agencies (local, national, International) in the elimination of handicapping conditions:

1. The teaching of prevention of disability and disease and the rehabilitation of the handicapped need to be introduced in the medical curriculum at the undergraduate level throughout all the training institutions.

2. For greater prevention and control, teaching of rehabilitation should also be introduced in the University at the post graduate level to facilitate specialised services to the handicapped.

3. Knowledge and skills of early detection of disability, prevention of disability and introduction to rehabilitation must be incorporated in the teaching programmes of nurses and other health workers.

4. Departments of Rehabilitation of Handicapped need to be established in the medical colleges and in district hospitals to extend services to the handicapped community.

5. General practitioners of health personnel be contacted and supplied with posters and other display materials re: the danger signals and causes and treatment of handicaps which they can effectively use with their patient groups or communities.

6. International bodies need to bring about exchange of ideas, experiences, materials, resources between the different personnel all over the world working in the field of education for exceptional children.

International assistance and sharing of technology should also be promoted and encouraged between the developing and developed countries of the world.

Reaching out to the Masses

1. Massive educational programmes will have to be initiated to bring an awareness of the common causes of the handicaps and for their elimination.

2. The widest possible publicity must be given through all recognised media channels for educating rural masses in the prevention, cure and rehabilitation of the handicapped.

3. Social workers, experts in the field of special education and mass media and communication experts must jointly collaborate to plan out excellent mass media programmes through the press, radio and T.V. to appeal to the community in the urban and rural areas with different programmes, content, style for each of these.

4. Mobile camps should be fully utilized for spreading mass education in rural areas on preventive aspects and not just providing treatment.

5. Treatment, aids and drugs will have to be given free or at minimum cost to the poor people of rural areas.

6. It would be a good idea if medical centres, primary health centres and similar organizations are adopted by neighboring medical colleges so that expert treatment can be made available to the poorest in the remote parts of the country.

7. Wherever possible, the eyes of the child should be tested by qualified medical practitioners and the child should also be checked by an ENT Specialists thereafter, preferably before admission to the school or soon thereafter.

8. Mobile units, primary health centres and similar units must take it up as an obligation to test the eyes, ears, nose and throat of children below the age of six to facilitate early detection and treatment.

9. The government should take effective steps to prohibit mutations and other similar malpractices indulged in by quacks, prescribing severe penal action including rigorous imprisonment.

10. Genetic counselling should be introduced wherever possible by establishing Genetic Counselling cells.

11. A substantial number of children are the victims of crippling handicaps from the earliest stages and timely detection, treatment and remedial measures can eliminate unnecessary suffereing over a life span. In the light of this yearly medical inspection of all school going children should be made compulsory. All schools must be requried to maintain medical records of all children from the date of admission to the date of leaving school. School authorities should ensure that remedial treatment as prescribed is given. Nutrition education be imparted and steps taken to ensure that malnutrition is not allowed to lead to crippling conditions. School text books should have simple lessons on prevention of disabilities.

Research for Improved Services:

1. In developing countries, costly though it may be, great emphasis should be placed on research in all aspects pertaining to the rehabilitation of the handicapped.

2. Psychological testing, testing of attitudes, aptitudes and intelligence of the clients need to be evolved for all categories of the handicapped which do not exist right now in the developing countries.

3. The research which is conducted should also include secondary problems of the handicapped like pressure on tissues, complications of joints.

4. The Ministry of Social Welfare can play a significant role by publishing a digest of research on problems of the handicapped.

5. Areas of research policies and research programmes can be made out by experts in the field of education of exceptional children.

6. Technology can be gradually developed for environmental modifications to suit the needs of the handicapped.

7. The Government should engage service organizations to develop regional research centres which can pool valuable data together from various parts of the country.

8. It is suggested there should be a nation-wide dissemination of research findings preparation of directories and feedback reports indicating how the results of research have been implemented or acted upon by voluntary agencies in the field and that wherever possible Government and the concerned research councils can finance the same.

9. Similarly awards can be given to outstanding students and those schools which are making a significant contribution to the education of exceptional children. Awards, on the line of the Kennedy Awards in the U.S.A. for research in mental retardation, can also be given to those also who have conducted research in the causes, promotion and treatment of handicapped or their education and advising new technology (material and non-material) for their rehabilitation as a mark of their recognition.

Modern Technology in Education and Vocational Training of the Handicapped:

1. The equipment should not be too sophisticated or beyond the reach of an average person. This factor is of special importance in a developing country where people are poor, uneducated, and repair on gadgets is not possible due to transport and costs involved.

2. Special attention should also be paid to suitably designing domestic aids and appliances.

3. Government should start multi-dimensional workshops for manufacturing gadgets, using indigenous raw materials and components, while doing so, the special needs of rural handicapped must be borne in mind while developing aids and appliances.

4. Local technologists and scientists should assist in developing indigenous aids and equipment used in the rehabilitation of the exceptional children. Special awards can be given for outstanding innovations.

5. All latest aids and appliances and devices be made available freely or at minimum costs and exhibited at national and state levels to make professionals and the public aware about them.

6. We must ensure that the aids and appliances reach the handicapped in the rural areas.

REFERENCES

1. Luthra. P.N. "Services for the Handicapped in India" Social Welfare. April 1974.

2. Information obtained from National Society of Equal Opportunities for the Handicapped. May 1978.

3. International Rehabilitation Review: "Poliomyelitis on the Increase in Warm Countries". XX January 1969. 5-6.

4. Bhatt Usha. The Physically Handicapped in India, Bombay. Popular Book Depot 1963.

5. Scrimshaw, Nevin S. "Infant Malnutrition and Adult Learning" Saturday Review, March 16, 1968. PP. 64-66, 84.

6. Shah P.M. Child Care and Nutrition. Mimeographed Paper, 1967.

7. King, Edmund: Other Schools and Ours, New York: Rinchart and Company, 1958.

8. Chandra Kailash. "The Tragedy of the Indian Child" Social Welfare XV (April 1968) P. 4-5.

9. Myrdal, Gunnar: Asian Drana: An Inquiry into the Poverty of Nations, New York: Pantheon 1968. Three Volumes.

10. Directorate of Social Welfare, Government of Maharashtra, India: "Rehabilitation of Disabled in Maharashtra State", Poona, 1957.

11. Myrdal Gunnar. (op cit)

12. Tripathi Kalawati. "Access to Girls to Education", Social Welfare XIV, March 1968.

13. Taylor Wallace & Taylor Isabelle: Services for the Handicapped in India. International Society for Rehabilitation of the Disabled. New York, 1970.

14. Ibid.

15. Myrdal Gunnar: (op cit)

16. Government of India, Ministry of Education Report of the Education Commission 1964-66. Education and National Development. New Delhi. Government of India Press, 1966.

17. Ibid

18. Taylor Wallace & Taylor Isabelle op cit.

19. Government of India, Department of Social Welfare, Handbook on Social Welfare Statistics 1976. New Delhi 1976.

20. Directorate of Social Welfare. Government of Maharashtra (India). First Report of the Working of the Physically Handicapped.

21. Malin, Arthur John. "Psychological Tests for Retarded Indian Children. The Journal of Rehabilitation in Asia IX (April 1968) 44-46.

22. Advani, Lal. "Development of a Special Education Programme." International Society for Rehabilitation of the Disabled. 4th Pacific Rehabilitation Conference. Hong Kong, 1969. PP. 369/372.

23. Bhatt, Usha "A Historical survey of a Services for the Orthopaedically Handicapped" in "Toward a Fuller Life". Department of Social Welfare, Government of India. Government of India Press 1967.

24. Khan, Shabibzada Abdul Munim: "The Child at Work and Play". Social Welfare (May 1968) EV

25. Gunnar Myrdal: Op cit.

26. Wagle M. M. Immunization as a Very Important measure of Child Welfare. Mimeographed Paper PP. 3/6

27. Shah P. M. Child Care and Nutrition Mimeographed Paper 1967.

28. Bhatt Usha. The Physically Handicapped in India, Bombay: Popular Book Depot, 1963.

29. Rehabilitation Record. IX "Eye Camps in Rural India" (September-October 1968)

30. Rehabilitation Record: "The Mentally Ill in India X. (July-August 1969) PP. 35.

31. Selvapandian Ambrose J. "Problems of Rehabilitation of Leprosy Patients" In International Society for the Rehabilitation of the Disabled. Practical Implementation of the Rehabilitation. Proceedings of the Third Pan Pacific Rehabilitation Conference, Tokyo, Japan 1965.

32. Mukopadhaya, B. "Guest Editorial" The Journal of Rehabilitation in Asia II July 1963. 3.

33. Dixit, A. K. "The pediatrician's role in the rehabilitation" The Journal of Rehabilitation in Asia IX (April 1968) pp 51-53.

34. Ramaniyan, B. K. "Paediatrics, Child Development and Mental Retardation". Indian Journal of Mental Retardation. January 1968. 38-47.

35. Taylor Wallace & Taylor Isabelle, op. cit.

36. Ibid.

37. Gleave J.A.E. Training of Orthopaedic & Prosthetic Appliances technicians in emerging countries. "In International Society for Rehabilitation of the Disabled. Proceedings of the Tenth World Congress. Industrial Society & Rehabilitation Problems & Solutions. Heidelberg Behindekar e.v. 1967 pp 261/262

38. Ramchandran P. (Directory of Professional Social Workers in India 1967, Bombay. Indian Conference of Social Work Central Office 1967).

39. Chandbola R. D. "A Beacon of Hope for India's Handicapped: Prosthetic Workshop - A meeting place of Art and Industry" Social Welfare XV (April 1968)

40. Bhatt Usha op cit

41. Sant M. V. - Rehabilitation of the Disabled in India (October-December 1968)

42. These have been taken from the proceedings of the All India Conference on Work for the Handicapped organized by the National Society for Equal Opportunities for the Handicapped (India) held in Bombay, January 1978.

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It must be stated that though the book is not so recent it still has immense value and the picture as presented in it has not changed very considerably.

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